REMARKS

Applicants request favorable reconsideration and withdrawal of the rejections set forth in the April 30, 2008 Office Action in view of the foregoing amendments and the following remarks.

Claims 5-24, 26, and 27 are now pending. Claims 9-16 and 21-24 stand withdrawn as being directed to a non-elected invention. Claims 5, 17, 26, and 27 are independent claims currently under consideration. Claims 3, 25, and 28 have been cancelled without prejudice or disclaimer of subject matter. Claims 5 and 26 have been amended herein. Support for the amendments can be found throughout the originally-filed disclosure, including, for example, at page 16, lines 13-21 of the specification. Accordingly, Applicants submit that no new matter has been added.

In the outstanding Office Action, claims 3, 25, and 28 are rejected under 35 U.S.C. § 102(e) as being anticipated by Masuyama (U.S. Patent No. 6,674,471).

Applicants respectfully traverse this rejection. Nevertheless, without conceding the propriety of the rejection and solely to expedite prosecution, Applicants have cancelled claims 3, 25, and 28, thereby obviating the rejection.

Claims 5-8 and 26 are rejected in the Office Action under 35 U.S.C. § 103(a) as being unpatentable over Hamaskai et al. (U.S. Patent No. 5,187,583) in view of Suzuki (U.S. Patent No. 5,828,407). Claims 17-20 and 27 are 35 U.S.C. § 103(a) as being unpatentable over Gowada et al. (U.S. Patent No. 6,344,877).

Applicants respectfully traverse these rejections, and submit that the claimed invention is patentably distinguishable from Hamaskai et al., Suzuki, and Gowada et al. for at least the following reasons.

With respect to independent claims 5 and 26, the Office Action cites Hamasaki et al. as disclosing an image pickup device that comprises features of the claimed invention. The Office Action acknowledges, however, that Hamasaki et al. does not disclose a drive circuit or output step to output a signal to control a transfer switch as recited in independent claims 5 and 26.

In order to cure this deficiency in Hamasaki et al., the Office Action cites Suzuki. Specifically, the Office Action asserts that Suzuki discloses a drive circuit that outputs a signal for controlling a transfer switch so that a time during which the transfer switch changes from an ON state to an OFF state becomes longer than a time during which the transfer switch changes from the OFF state to the ON state.

Applicants submit, however, that Suzuki does not disclose or suggest a drive circuit "outputting a pulse wave form signal for controlling [a] transfer switch so that a time during which [the] transfer switch changes from an ON state to an OFF state becomes longer than a time during which [the] transfer switch changes from the OFF state to the ON state," as recited in amended independent claim 5. Similarly, Suzuki does not disclose or suggest an output step of outputting a pulse wave form signal, as recited in amended independent claim 26. Specifically, Applicants submit that Suzuki does not provide sufficient details with respect to the time it takes to change between states to determine any comparison of time to switch from an OFF to ON state vis-á-vis the time to switch from an ON state to an OFF state. For example, Figure 4 and col. 9, lines 15-63 of Suzuki, which are cited in the Office Action, merely disclose "step" increases and decreases in the charge transfer pules. That is, for example, transfer pulse V_1 is shown to merely change from a low voltage level V_L to a high voltage level V_H at times t1 and 8, respectively. See Suzuki, Figure 4. Suzuki does not show the time it takes to change between the two voltage levels, e.g., between time x and time y. Instead, the reference merely shows the change occurs at

the referenced times. Thus, assuming arguendo that Suzuki discloses signal for controlling a transfer switch, the reference does not further disclose a pulse wave form for controlling the transfer switch so as to have the relative times to change between states, as recited in independent claims 5 and 26.

With respect to independent claims 17 and 27, the Office Action asserts that Gowda et al. discloses an image pickup devices with features of the claimed invention. The Office Action acknowledges that Gowda et al. does not disclose a fall speed Voff for changing a transfer switch from an ON state to an OFF state that has a relation 10 V/μsec > Voff. The Office Action asserts, however, that such a fall speed in well known in the art. Thus, the Office Action concludes that it would have been obvious to one of ordinary skill in the art to modify the driving circuit of Gowda et al. to have the claimed fall speed "in order to facilitate high-speed imaging."

Assuming, arguendo, that a fall speed relation of 10 V/μsec > Voff is known in the art for some types of image pickup devices, Applicants submit that the rejection fails to establish prima facie case that it would have been obvious to modify the specific device disclosed by Gowda et al. to have such a fall speed. In support of the modification, the Office Action applies a "motivation" rationale, namely that to modify the driving circuit of Gowda et al. to have the claimed fall speed would facilitate high-speed imaging. Applicants submit that this reasoning is not correct. The claimed invention relation sets a maximum fall speed, namely less than 10 V/μsec. "Fall speed," as indicated by the units V/μsec, is inversely proportional to amount of time the voltage drop occurs, thus, a lower fall speeds correspond to longer times for the voltage drop. Therefore, one of ordinary skill in the art looking to "facilitate high-speed imaging" in Gowda et al. would not look to create a maximum fall speed as recited in the claimed invention. Instead, one of ordinary skill in the art would look to increase the fall speed as much as possible

in order to correspondingly increase the speed of imaging. Hence, the Office Action does not set forth a proper rationale for modifying Gowda et al., and, in Applicants' view, no such rationale is suggested by the art of record. Accordingly, the Section 103 rejection of claims 17 and 27 in view of Gowada et al. should be withdrawn.

For at least the foregoing reasons, Applicants submit the invention recited in independent claims 5, 17, 26, and 28 is patentably distinguishable from the cited references to Hamaskai et al., Suzuki, and Gowada et al., whether the references are taken individually or collectively.

In view of the foregoing amendments and remarks, it is respectfully submitted that the pending claims are allowable over the references of record, and that the application is in condition for allowance. Favorable reconsideration and early passage to issue of the application are earnestly solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our New York office at the address shown below.

Respectfully submitted,

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